

I claim:

1. A method comprising a surface-analysis determination precedent to electrofusion welding, in which a pipe or pipes to-welded to an electrofusion fitting are prescribed to be scraped or skinned to remove contaminants, comprising the steps of:

supplying raw, or not-skinned in recent times, pipe stock for an electrofusion welding operation;

scraping or skinning an applicable section of the pipe contemporaneously prior to performing the electrofusion welding operation;

supplying an electrofusion fitting and electrofusion processor for completing electrofusion welding of said electrofusion fitting to the applicable section of said pipe if such is passable for the purpose;

providing at least one non-contact probe for inspecting the applicable pipe section contemporaneously after the step of scraping or skinning;

feeding the output of the at least one non-contact probe to control circuitry to determine alternately a "pass" condition which enables operation of the electrofusion processor, and hence welding, or alternatively disables operation of the electrofusion processor until the at least one probe is disassembled and then re-assembled for a successive measurement so that presumptively during the interim an operator can re-attempt to skin or scrape the applicable pipe section anew in order to obtain a "pass" condition.